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ABSTRACT

A study explored the extent to which a child's birth order is associated with differential treatment by others. Twenty pairs of siblings between 4 and 9 years of age were observed interacting in a laboratory setting. All were white, middle-class children whose mothers had at least some college education. The children played with and without their mothers present for a total of about 30 minutes. Videotapes of the sessions were coded using one of 21 different behavioral categories during each 10-second interval. In addition, responses of the other family members to the focal child were coded. A series of conditional probability analyses were performed in an effort to determine the extent to which the behavior of mothers and siblings varied in response to the behavior of the focal child. Significant changes in responses by siblings and mothers to children's behavior were associated with differences in the child's birth order and gender. Oldest boys and oldest girls are treated differently from other children. (AC)

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Children's Birth Order as a Mediator in Responses by Mothers and Siblings

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Abstract

Forty children between 4 and 9 years of age (20 sibling pairs) were observed interacting in a laboratory setting. Children played with and without their mothers present for a total of approximately 30 minutes. Videotapes were coded using one of 21 different behavioral catgories during each 10-second interval. A series of conditional probability analyses were performed to see to what extent the behavior of mothers and siblings varied in response to the behavior of the focal child. Significant changes in responses by siblings and mothers to children's behavior were associated with differences in the child's birth order, and gender by birth order grouping. Whether a child is oldest or youngest in a family does seem to result in differential treatment not only by mothers but by sisters and brothers as well. This also interacts with the gender of the child such that, for example, oldest boys and oldest girls are treated differently by other family members.

Aims

The primary aim of this study was to further explore what effect, if any, a child's birth order has on his or her social development. If a child's birth order is an important factor in individual development, it is probably such to the extent that it is associated with differential treatment by others.

The purposes of this study were to:

(a) explore whether or not other family members respond differently to a child's behavior depending on whether that child is the oldest or youngest in the family;

(b) and to see if birth order and gender might have an interactive effect on the types of responses a child receives from other family members.

Subjects and Methods

Forty children between 4 and 9 years of age (20 sibling pairs) were observed interacting in a laboratory setting. Children played with and without their mothers present for a total of approximately 30 minutes. All were middle-class, white children whose mothers had at least some college education. An equal number of boys, girls, same-sex and mixed-sex pairs were included. Half of the mixed-sex pairs had an older boy and half had an older girl.

Videotapes were coded by categorizing behaviors using one of 21 different codes during each 10-second interval. This system was adapted from one used in earlier research involving home observations of family interactions which was based in turn upon an earlier version of the Family Interaction Coding System (FICS) (see Appendix 1 for a complete listing of the codes used). Each tape was coded twice--first focusing on the behavior of one child and then focusing on the other. In addition, the response or reaction of the other family members to the focal child were coded. Inter-rater reliability for the codes yielded an average kappa of .722 (SD = .140) and all had significant z-scores associated with them (mean = 11.91).

As stated earlier, sessions were scheduled to be a total of 30 minutes long--15 minutes with mother and 15 minutes without her. In fact there was some small variability in the actual length of sessions. To control for this, proportion scores for each behavioral category were computed by dividing the total frequency of occurrence of each category by an individual by the total number of behaviors emitted by that individual. Thus, the following analyses were performed on each child's proportion score for each behavioral category.

Results

A conditional probability represents the likelihood that one event will happen given the occurrence of another. When the events involved are the behaviors of partners in a social interaction, a statistically significant conditional probability indicates that the behavior of one person may be changing in reaction to the behavior of another.

A series of conditional probability analyses were performed to see to what extent the behavior of mothers and siblings varied in response to the behavior of the focal child. The probability of a behavior by either the mother or siblings following a given behavior by the focal child was compared with the base rate probability of that behavior for that family member group. For example, the probability of a mother talking after her child talked would be compared to the probability of her talking in general. If family members are reacting differently to children's behavior as a result of the child's birth order, then one should find significant conditional probabilities associated with behaviors for children of one birth order and not for another.

The following tables summarize the changes in responses by siblings and mothers to children's behavior

that were associated with differences in the child's birth order or gender by birth order grouping. There also were significant conditional probabilities that were not associated with one focal child group more than another. For example, when a child gave a command, others were more likely to comply than if a command had not been given. Due to space constraints, these changes that were not associated with gender or birth order attributes of the focal child will not be reported in this paper.

Table 1

Changes in Probability of Behaviors by Other Family Members Associated with Birth Order of the Focal Child

When the focal child was the oldest:

When the child:	Others were more likely to:
Attend	Not Respond (1.98)*
Command	Noncompliance (2.37)
Request	Ignore (2.18)
Tease	Tease (2.61)

When the focal child was the youngest:

No significant changes occurred that did not also occur when interacting with the oldest child.

* Values in parentheses are the z-scores associated with the difference between the conditional probability observed and that expected based on the base rates of the individual behaviors.

Table 2

Changes in the Probability of Behaviors by Mothers versus Siblings Associated with Birth Order of the Focal Child

For mothers:

When the focal child was the oldest:

When the child:	Mothers were more likely to:
Not Respond	Request (2.59)*

When the focal child was the youngest:

When the child:	Mothers were more likely to:
Compliance	Request (3.43)
Disapproval	Disapproval (2.10)

For siblings:

When the focal child was the oldest:

When the child:	Siblings were more likely to:
Attend	Not Respond (2.14)
Command	Noncompliance (6.12)
Noncompliance	Command (2.22)
Noncompliance	Request (2.01)
Request	Ignore (2.47)
Tease	Tease (2.64)

Whine	Disapproval (4.87)

When the focal child was the youngest:

When the child:	Siblings were more likely to:
Approval	Laugh (2.71)
Compliance	Request (2.51)

* Values in parentheses are the z-scores associated with the difference between the conditional probability observed and that expected based on the base rates of the individual behaviors.

Table 3

Changes in the Probability of Behaviors by Other Family Members Associated with the Gender and Birth Order of the Focal Child

When the focal child was male and oldest:

When the child:	Others were more likely to:
Command	Noncompliance (3.47)*
Laugh	Laugh (2.65)
Noncompliance	Command (2.19)
Not Respond	Tease (2.59)
Tease	Ignore (4.26)
Tease	Whine (2.25)

When the focal child was female and oldest:

When the child:	Others were more likely to:
Attend	Not Respond (2.85)
Disapproval	Whine (3.27)
Noncompliance	Command (2.24)
Noncompliance	Request (2.59)
Request	Ignore (4.22)
Request	Compliance (2.35)
Tease	Tease (6.89)

When the focal child was male and youngest:

When the child:	Others were more likely to:
Compliance	Request (2.13)

When the focal child was female and youngest:

When the child:	Others were more likely to:
Compliance	Not Respond (2.84)
Compliance	Request (2.87)
Ignore	Tease (2.42)
Request	Noncompliance (2.09)

* Values in parentheses are the z-scores associated with the difference between the conditional probability observed and that expected based on the base rates of the individual behaviors.

Table 4

Changes in the Probability of Behaviors by Mothers versus Siblings Associated with the Gender and Birth Order of the Focal Child

For mothers:

When the focal child was male and oldest:

When the child:	Mothers were more likely to:
Command	Noncompliance (3.39)*
Not Respond	Request (2.62)

When the focal child was female and oldest:

When the child:	Mothers were more likely to:
Approval	Not Respond (2.19)
Request	Compliance (2.46)

When the focal child was male and youngest:

When the child:	Mothers were more likely to:
Compliance	Request (3.11)
Request	Noncompliance (2.35)
Talk	Approval (2.37)

When the focal child was female and youngest:

When the child:	Mothers were more likely to:
Command	Command (2.22)

Compliance	Request (3.65)
Disapproval	Disapproval (3.34)
Request	Compliance (2.55)
Tease	Talk (2.38)

For siblings:

When the focal child was male and oldest:

When the child:	Siblings were more likely to:
Command	Noncompliance (2.89)
Not Respond	Tease (2.77)
Tease	Ignore (4.37)
Tease	Whine (2.29)

When the focal child was female and oldest:

When the child:	Siblings were more likely to:
Attend	Not Respond (3.59)
Compliance	Request (2.62)
Disapproval	Whine (3.71)
Noncompliance	Command (2.68)
Noncompliance	Request (3.11)
Request	Compliance (2.56)
Request	Ignore (4.57)
Tease	Tease (6.99)

When the focal child was male and youngest:

When the child:	Siblings were more likely to:
Whine	Tease (2.22)

When the focal child was female and youngest:

When the child:	Siblings were more likely to:
Compliance	Request (2.70)
Ignore	Tease (2.68)
Request	Noncompliance (2.45)
Tease	Ignore (8.53)

* Values in parentheses are the z-scores associated with the difference between the conditional probability observed and that expected based on the base rates of the individual behaviors.

Conclusions

For several behaviors, there were significant increases in the probability of certain responses by other family members when the child was the oldest in the family but not when he or she was the youngest. For example, other family members were more likely than usual to not comply or ignore commands or requests when they came from oldest children but this was not true with youngest children. Other family members were more likely than usual to tease in response to teasing by oldest children but there was no change when the other child was the youngest child.

Birth order also seemed to interact with the gender of the child. There were several behaviors that were associated with changes in the probability of certain responses when they were performed by one gender-birth order group but not by another. For example, other family members were more likely than usual to ignore or whine when teased by an oldest boy but more likely to reciprocate the teasing when done by an oldest girl.

Finally, there were many more significant changes in siblings' responses associated with the child's birth order than were found in the responses by mothers. Perhaps birth

order is a more salient factor in these within-family peer interactions that it is in the interactions between generations in the family.

Appendix 1

Behavioral Categories Used to Code Observed Interactions

Approval (AP) = a clear demonstration of verbal or nonverbal approval of another person's attributes or behavior.

Attend (AT) = attending to the behavior of another person.

Command (CM) = telling another person to do something specific.

Compliance (CO) = following a command.

Deviant Behavior (DB) = behavior such as destructiveness, temper tantrums, or other unusual and inappropriate behavior.

Disapproval (DI) = criticizing or showing displeasure with another person's behavior or some attribute of his or hers.

Helping (HP) = doing something to assist another person without being ordered or asked to do so.

Independent Activity (IA) = engaging in some activity alone.

Ignore (IG) = purposely not attending to another person.

Interaction (IN) = when two or more persons are interacting in a cooperative way, either playing or working on a common task.

Laugh (LA) = laughing when another person does or says something humorous; not derogatory laughter.

Noncompliance (NC) = a person fails or refuses to comply with a command.

Not Included (NI) = used for interactions that do not include the focal child.

Nonresponse (NR) = not reacting to the behavior of another person and it is not clear that Ignore applies.

Physical Negative (PN) = engaging in or trying to engage in harmful or potentially harmful physical contact with another person.

Physical Positive (PP) = engaging in affectionate or at least nonaggressive physical contact with another person.

Receive (RC) = receiving an object, assistance, or physical contact from another person.

Request (RQ) = asking another person to do something and it is not stated as a command.

Talk (TA) = talking to another person where none of the other codes applies.

Tease (TE) = when one person annoys or pesters another person.

Whine (WH) = when a person says something or emits a noise with a high-pitched, nasal tone of voice.